

REMARKS

The examiner has rejected claims 15-33 under 35 U.S.C. § 102(b) as being anticipated by Hashish et al, United States Patent No. 5,700,181. It is noted that contrary to the office action, claim 20 has been previously cancelled from the present application. As hereinafter described, applicant has amended 15-19 and 21-23 to more particularly define the invention for which protection is sought. In addition, for the reasons hereinafter described, applicant believes claims 24-33 define over the cited reference. As such, reconsideration of the examiner's rejections is respectfully requested in view of the following comments.

Claim 15 defines a device for abrasive machining of surfaces of components. The device includes a tool having an inlet and an outlet. A supply unit conveys to the inlet a liquid in which abrasive agents are dissolved and which emerges from the outlet. A positioning means as part of the device guides the tool across a surface to be machined, and simultaneously positions the tool in such manner that the outlet faces the surface to be machined and such that an area of an annular gap defined by boundary walls of the outlet and the surface to be machined is smaller than a cross-sectional area of the inlet. In addition, claim 15 requires the cross-sectional area of the inlet to be smaller than the cross-sectional area of the outlet. As hereinafter described, such a structure is not shown or suggested in the cited reference.

The Hashish et al., '181 patent discloses an apparatus incorporating an abrasive-liquid polishing and compensating nozzle. Referring to Figs. 4-5 of the '181 patent, the apparatus polishes a glass surface by directing an abrasive fluid through the nozzle maintained in close proximity to a surface. The nozzle tip is generally funnel shaped and is wider toward the work surface for assisting transition of the fluid jet from its relatively slow moving normal direction to its high velocity tangential direction. The nozzle is slidably mounted on a support to allow a user to set a rough position relative to the work

surface. However, as best seen in Fig. 4, the inlet to nozzle assembly 61 is at least as big as the outlet of nozzle assembly 61 at tip 86. As hereinafter described, this arrangement constitutes a significant difference from the structure defined in claim 15.

As previously noted, claim 15 requires the cross-sectional area of the inlet to be smaller than the cross-sectional area of the outlet. Referring to page 4, lines 24-27 of the Specification, this arrangement allows for the linear (or circular) machining of a surface in along the entire region of the annular gap, not just the center of the outlet. A significant advantage over prior devices for abrasive machining of a surface, including the device disclosed in the '181 patent. Further, there is no teaching or suggesting in the cited reference to modify the cross-sectional area of the inlet of the apparatus disclosed in the '181 patent to be smaller than the cross-sectional area of the outlet.

In view of the foregoing, it is believed that claim 15 defines over the cited reference and is in proper form for allowance. Applicant wishes to point out that the subject matter incorporated into claim 15 was previously presented in cancelled claim 20 of the pending application. As such, applicant believes that consideration of amended claim 15 may be conducted without a further search.

Claims 16-19 and 21-23 depend either directly or indirectly from independent claim 15 and further define a device not shown or suggested in the art. It is believed that claims 16-19 and 21-23 are allowable as depending from an allowable base claim and in view of the subject matter of each claim.

Referring to claim 24, a device is provided for abrasive machining of surfaces. The device includes a tool having an inlet and an outlet. A supply unit conveys to the inlet a liquid in which abrasive agent are dissolved and which emerges from the outlet. A positioning means, as part of the device, guides the tool across a surface to be machined and simultaneously positions the tool in such manner that the outlet faces the surface to

be machined such that an area of an annular gap defined by boundary walls of the outlet and the surface to be machined is smaller than a cross-sectional area of the inlet. The supply unit conveys the liquid under a pressure smaller than 20 bar. As hereinafter described, the cited reference does not show or suggest a device for abrasive machining of surfaces that incorporates a supply unit conveys the liquid under a pressure smaller than 20 bar.

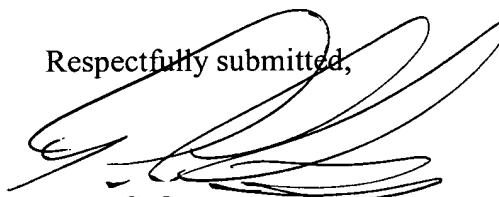
The examiner has suggested that the '181 patent discloses a device for abrasive machining of surfaces that incorporates a supply unit conveys the liquid under a pressure smaller than 20 bar. In support, the examiner points to column 3, lines 21-23 of the '181 patent wherein it states that "...the pressure is up to approximately thirty thousand pounds per square inch (30,000 psi)." It is noted that the pressure value of 30,000 psi corresponds to 2068.43 bar, which is approximately two magnitudes larger than the limit defined in claims 24-33.

Clearly, there is no suggesting or teaching in '181 patent to provide a device for abrasive machining of surfaces that incorporates a supply unit conveys the liquid under a pressure smaller than 20 bar, as required by claim 24. The '181 patent teaches the directing of a high velocity stream of abrasive fluid through a nozzle exit. Id. at column 2, lines 14-6 and column 3, lines 13-17, while the device of the present invention contemplates comparatively low pressures.

In view of the foregoing, applicant believes that claim 24 defines over the cited reference and is in proper form for allowance. Claims 25-33 depend either directly or indirectly from independent claim 24 and further define a device not shown or suggested in the art. It is believed that claims 25-33 are allowable as depending from an allowable base claim and in view of the subject matter of each claim.

Applicant believes the present application with claims 15-19 and 21-33 is proper form for allowance and such action is earnestly solicited. No fees are believed to be payable with the submission of this amendment. However, the Director is authorized to charge any fees associated with this or any other communication, or credit any overpayment, to Deposit Account No. 50-1170.

Respectfully submitted,



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Date: 12/11/04

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